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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,997	04/28/2005	Helmut J W Meyer	60469-212; OT-5043	1645
7590		06/26/2007		
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			EXAMINER	
			NICHOLSON III, LESLIE AUGUST	
			ART UNIT	PAPER NUMBER
			3651	
			MAIL DATE	DELIVERY MODE
			06/26/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/532,997

**Applicant(s)**

MEYER ET AL.

**Examiner**

Leslie A. Nicholson III

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 35-70 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 35-70 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. In view of the appeal brief filed on 4/16/2007, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

  
GENE O. CRAWFORD  
SUPERVISORY PATENT EXAMINER

***Response to Arguments***

2. Applicant's arguments filed 4/16/2007 have been fully considered.

Applicant's arguments regarding Stuffel are persuasive and rejections over Stuffel are hereby withdrawn.

Regarding claim 35,70, Applicant argues Kraft does not disclose "a drive assembly including a plurality of stepchain links each having a plurality of teeth made of

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an integrated piece of material". In response, Kraft discloses the projections (25) made of an integrated piece of material since integrated is defined as "to bring together or incorporate parts into a whole". Applicant further argues Kraft is silent on an interface between a drive member and the linkages 23. In response, an interface between the drive member and the linkages is inherent. An interface is a surface regarded as the common boundary of two bodies. Though not referenced by a character, there is clearly an interface between the drive member and linkages, otherwise, they would not come in contact. Applicant further argues Kraft does not disclose, suggest, or teach "a plurality of teeth of a step-chain link that span an entire width of an interface between stepchain link and a drive member. In response, the Examiner disagrees. The interface of Kraft is shown in USP 3,677,388. See C2/L50-57 of Kraft USP 3,682,289. In addition, the interface between the drive member and teeth in the step-chain link is only the portion of each that contact one another. If, for example, the drive member were wider than the width of the teeth, the teeth would still span an entire width of the interface with the drive member because the remaining portion of the drive member that is not in contact with the teeth is not a part of the interface. The interface between the two is only where the two come into contact. Finally, the claim does not recite that the teeth are of the same width as that of the drive member. However, even if it were, Kraft discloses this in C2/L50-57 referencing USP 3,682,289.

Regarding claims 57,58,62,66-68, Applicant argues Kraft does not disclose an inner portion adapted to carry a tensile load and a distinct outer portion. In response,

element 23 is an inner portion that carries the tensile load while outer portion 25 does not carry a tensile load.

Regarding claim 65, Applicant argues Kraft does not disclose a "stepchain link including a central body portion with a drive surface having a first link edge and a second link edge and at least some of the plurality of teeth are continuously extend between the first link edge and the second link edge". In response, the link edges of each stepchain link are the edges that carry axle 9 and the central body portion is the body of the stepchain link between the link edges.

Regarding claims 35 and 57, Applicant argues the projections (25) of Kraft are not made of an integrated piece of material. Applicant appears to be arguing that claims 35 and 57 are directed towards the embodiment of fig.4-6, because in this embodiment the projection are made of an integrated piece of material, however the projections in the embodiment fig.8 is not an integrated piece of material. In addition, the specification refers to element 272 as the outer portion and 262 as the inner portion of figure 8D (P8/L7-11). Further, at least claims 49 and 61 recite the outer portion does not carry tensile loads. Clearly, at least claims 49,57-70 claim the embodiment of figure 8. In response, the projections (25) of Kraft are integrated in the same manner as that of the claimed invention. See ¶14.

Regarding claim 52, Applicant argues there is no motivation to employ a plastic plate including the plurality of teeth in Kraft. In response, the plate includes elements 23 and 25. Green merely teaches the use of plastic instead of other materials.

Upon further consideration, the previous indication of the allowability of claims 51 and 63 is hereby withdrawn. See ¶4.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 35-70 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. See ¶2.

Regarding claim 35, it is unclear what embodiment is being claimed. The plurality of teeth of the embodiment in figure 8 are not integrated since the inner portion, which comprises the teeth comprise a plurality of portion, however the plurality of teeth in the embodiment of figure 4-6 are integrated. Further, claim 36 is clearly claiming limitations related to the embodiment of figures 4-6 while claim 49 is claiming limitations related to the embodiment of figure 8. What embodiment is being claimed?

Regarding claim 57, it is unclear what embodiment is being claimed. The plurality of teeth of the embodiment in figure 8 are not integrated since the inner portion, which comprises the teeth comprise a plurality of portion, however the plurality of teeth in the embodiment of figure 4-6 are integrated. What embodiment is being claimed?

***Claim Rejections - 35 USC § 102***

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5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 35-38,40,43,44,47-51,53-55,57,58,59-70 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kraft USP 3,682,289 (see also Boltrek USP 3,677,388 and ¶12).

Kraft discloses a drive assembly comprising:

- A drive member (as disclosed in fig.2 of Boltrek) (C2/L50-57)
- A plurality of stepchain links (23) each having a plurality of teeth (25) made of an integrated piece of material
- Said plurality of teeth span an entire width of an interface between said stepchain links and said drive member (fig.1,3) (C2/L50-57)
- Said teeth width are substantially constant along said entire length of said chain (fig.1,3)
- Wherein said stepchain link comprises a central body portion, and at least some of said plurality of teeth are located on said central body portion (fig.1,3)
- Wherein the plurality of teeth are made of a single piece of material (fig.1)
- Wherein each said stepchain link comprises an inner portion and a distinct outer portion (fig.1)
- Said stepchain link including an end having tow spaced apart portion that at least partially receive another end of another one of said stepchain links (fig.3)

- Wherein said inner portion includes an opening (opening for shaft 9) and said outer portion includes a corresponding opening, and an attachment member (9) is received through said opening and said corresponding opening to secure said inner portion to said outer portion (fig.3) (for the purpose of claim 59 since it does not recite the outer portion not carrying a tensile load, the inner portion and outer portion as described in the instant application is the same as that shown in fig.3)
- Wherein said plurality of stepchain links form a chain having a length, and said plurality of teeth have a teeth pitch which is substantially constant along said entire length of said chain (fig.1)
- Wherein said inner portion comprises a first planar metal piece and a second planar metal piece, and a distance between said at least one planar metal piece and said second planar metal piece is less than a width of said bottom portion (As shown above, the inner portion comprises element 23 and carries the tensile load. The inner portion comprises several planar metal pieces 23. The distance between one planar metal piece of the many planar metal pieces and another planar metal piece that is 2 pieces away from the one planar metal piece is less than the distance between the two outermost planar metal pieces, since the distance between the two outermost planar metal pieces would be the width of the bottom portion)



***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 41,42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kraft USP 3,682,289.

Kraft does not disclose specific values for the width of said interface between said drive member and said plurality of stepchain links. However, one of ordinary skill in the art is expected to routinely experiment with the parameters, especially when the specifics are not disclosed, so as to ascertain the optimum or workable ranges for a particular use. Accordingly, it would have been obvious through routine experimentation and optimization, for one of ordinary skill in the art to have the width of said interface between said drive member and said plurality of stepchain links to be between 40 mm and 100 mm.

9. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kraft USP 3,682,289 in view of Nakatani USP 5,779,583.

Kraft discloses all the limitations of the claim, but does not expressly disclose each said stepchain link comprising a single piece of die cast metal.

Nakatani discloses forming parts out of die-cast metal for the purpose of using a metal sufficient for handling heavy loading (C3/L33-38).

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At the time of invention it would have been obvious to one having ordinary skill in the art to form parts out of die-cast metal, as taught by Nakatani, in the device of Kraft, for the purpose of using a metal sufficient for handling heavy loading.

10. Claims 39,46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kraft USP 3,682,289 (in view of Nakatani USP 5,779,583; see ¶19) in view of Tanigawa USP 6,213,278.

Kraft discloses all the limitations of the claim, but does not expressly disclose said die cast metal selected from the group consisting of aluminum and magnesium.

Tanigawa teaches die cast metal selected from the group consisting of aluminum and magnesium (C1/L53-54) for the purpose of choosing a material that is both strong and lightweight.

At the time of invention it would have been obvious to one having ordinary skill in the art to employ die cast metal selected from the group consisting of aluminum and magnesium, as taught by Tanigawa, in the device of Kraft, for the purpose of choosing a material that is both strong and lightweight.

11. Claim 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kraft USP 3,682,289 in view of Green USP 5,520,585.

Kraft discloses all the limitations of the claim and further discloses a plate (23) having said plurality of teeth (25) secured on said outer portion, but does not expressly disclose said plate being that of plastic.

Green teaches the use of plastic for the purpose of using a lightweight, non-rusting, self-lubricating material (abstract).

At the time of invention it would have been obvious to one having ordinary skill in the art to employ the use of plastic, as taught by Green, in the device of Stuffel (or Kraft), for the purpose of using a lightweight, non-rusting, self-lubricating material.

12. Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kraft USP 3,682,289 in view of Harrison USP 3,387,697.

Kraft discloses all the limitations of the claim but does not expressly disclose the plurality of teeth made of a single piece of material.

Harrison teaches the plurality of teeth made of a single piece of material (fig.2) for the purpose of providing a structure that is easier to fabricate.

At the time of invention it would have been obvious to one having ordinary skill in the art to make the plurality of teeth of a single piece of material, as taught by Harrison, in the device of Kraft, for the purpose of providing a structure that is easier to fabricate.

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leslie A. Nicholson III whose telephone number is 571-272-5487. The examiner can normally be reached on M-F, 8:30 AM - 5 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Crawford can be reached on 571-272-6911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

L.N.  
6/19/2007



GENE O. CRAWFORD  
SUPERVISORY PATENT EXAMINER